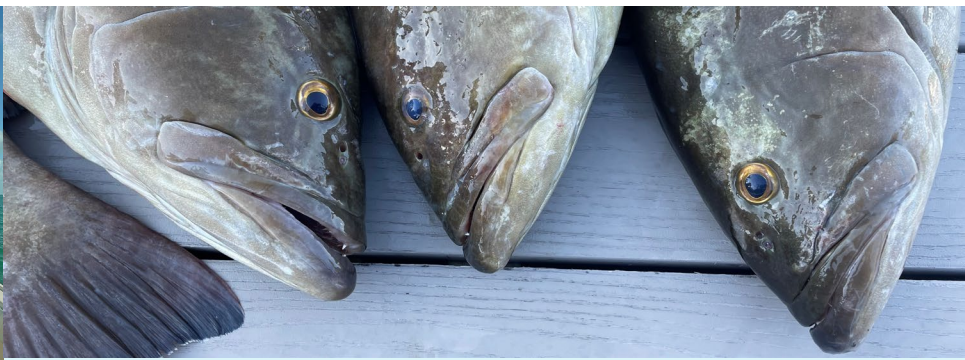


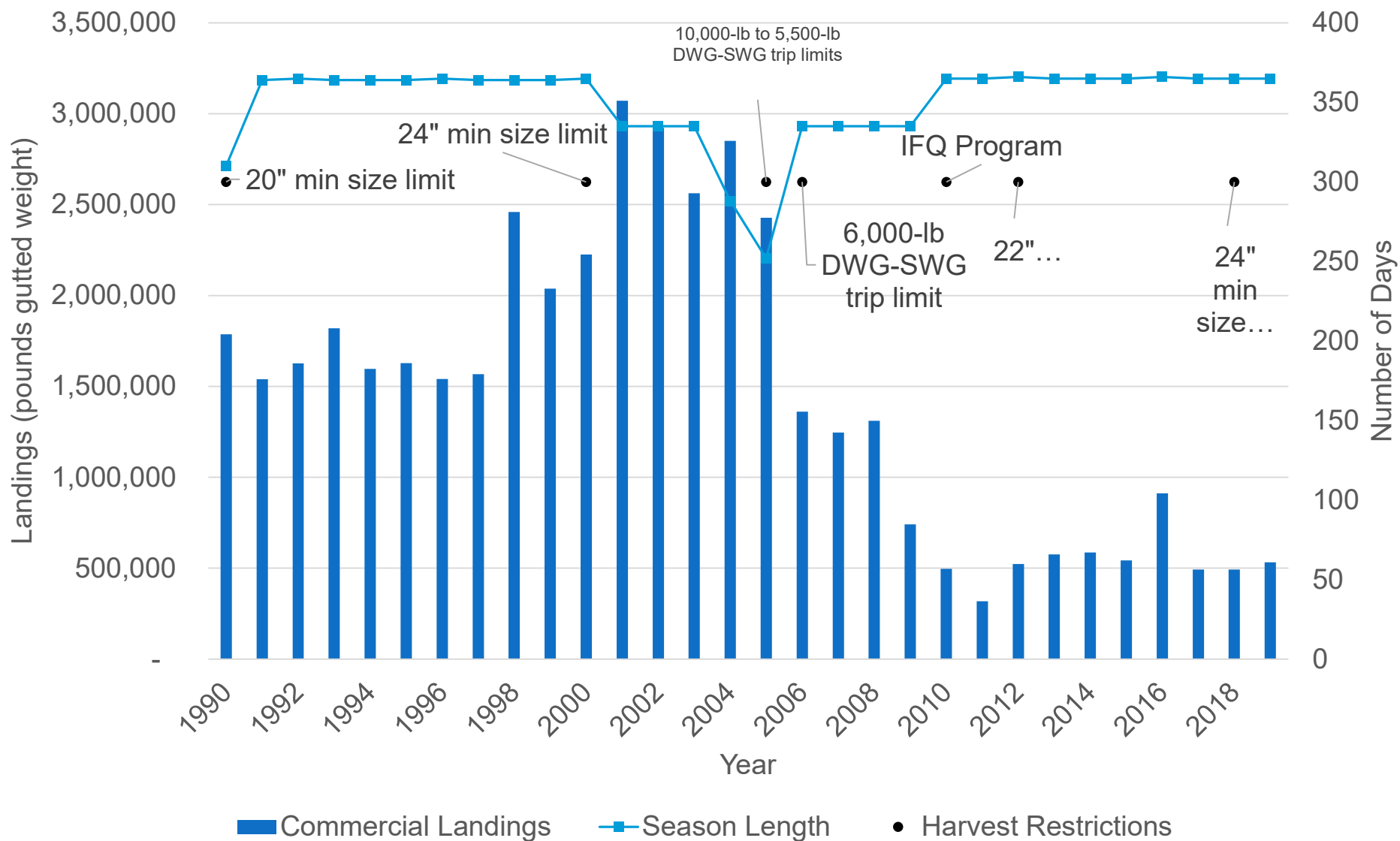


Tab B, No. 5(a)

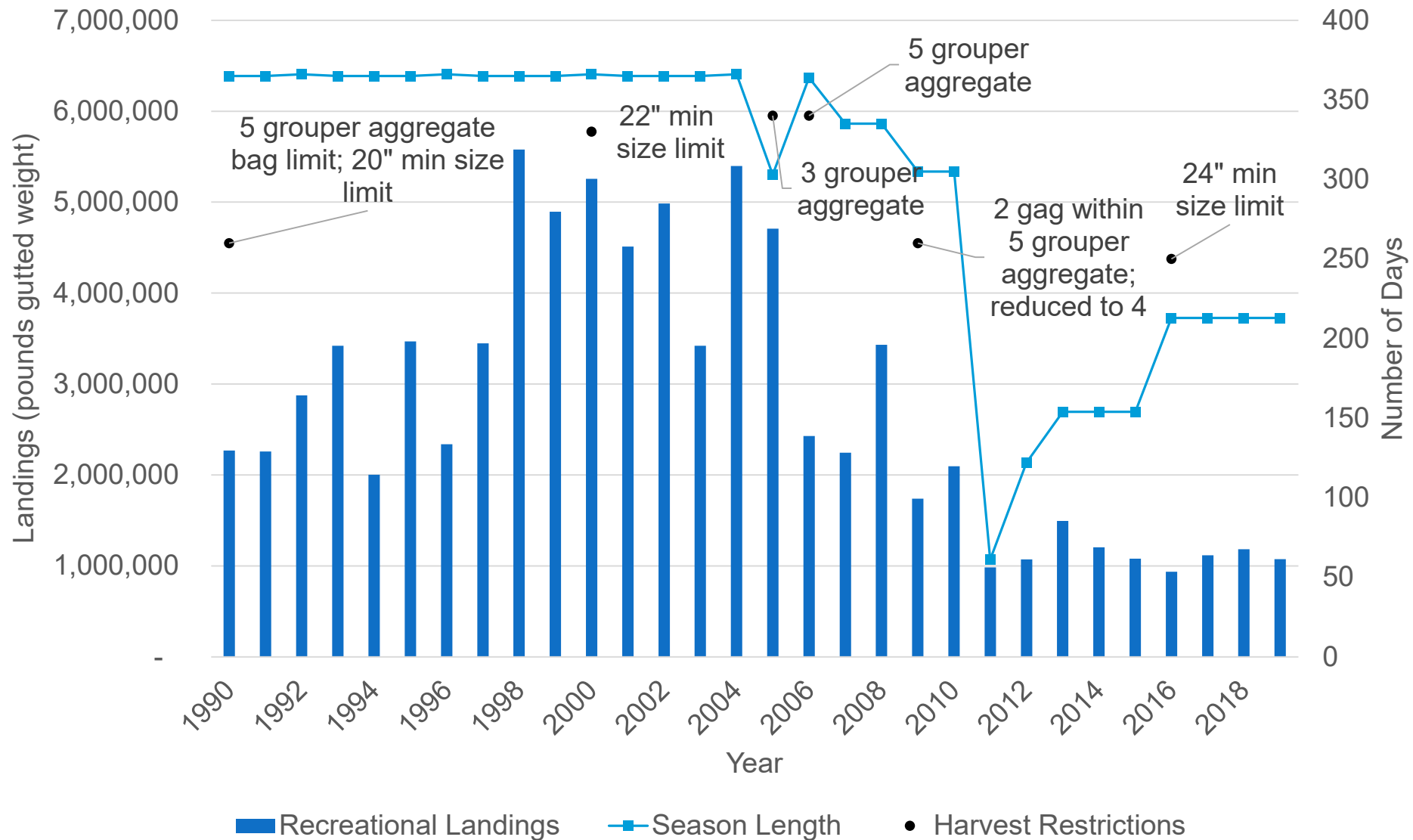
Reef Fish Amendment 56:
**Gag Grouper Catch Limits, Sector
Allocations, and Recreational Seasons**



Background: Commercial Landings and Management Measures since 1990



Background: Recreational Landings and Management Measures since 1990



Action 1: Modification of Gulf Gag

SDC: Definitions

- SDC = Status determination criteria
- MSY = Maximum sustainable yield
 - Peak yield without causing harm to stock
- MFMT = Maximum Fishing Mortality Threshold
 - Go over this = overfishing occurring
- MSST = Minimum stock size threshold
 - Go under this = stock is overfished
- OY = Optimum yield
 - Long-term management goal, accounting for social and econ considerations



Action 1: Modification of Gulf Gag SDC

- **Alternative 1:** No Action. Retain the SDC for gag as defined in Amendment 30B. MSY = the fishing mortality rate assuming the maximum yield per recruit (F_{MAX}). $MFMT = F_{MAX}$. $MSST = 50\%$ of the biomass at F_{MAX} (B_{MAX}). $OY = 75\%$ of the yield at F_{MAX} .

Note: Alternative 1 is not BSIA, and not viable

- **Alternative 2:** Revise the SDC for gag based on SEDAR 72 (2022). MSY = yield when fishing at a 40% spawning potential ratio ($F_{40\%SPR}$). $MFMT = F_{MSY}$ or proxy (e.g., $F_{40\%SPR}$). $MSST = 50\%$ of B_{MSY} or proxy. OY is conditional on rebuilding status, such that: if the stock is in a rebuilding plan, $OY = \text{stock ACL}$; if the stock is not in a rebuilding plan, $OY = 90\%$ of MSY or proxy.



Action 2: Modification of Gulf Gag Catch Limits Sector Allocation, and Rebuilding Timeline

- Data Units Primer

- Data used in Alternatives 2 and 3 in Action 2 use Florida's State Reef Fish Survey (SRFS) for private vessel catch and effort
- Shore mode and charter mode use MRIP-FES
- Headboat mode uses Southeast Region Headboat Survey
- SRFS historic effort estimates are greater than MRIP-CHTS, but much lower than MRIP-FES
- Cannot compare Alternative 1 to Alternatives 2 and 3 due use of different data units in SEDAR 72 (2022)



Action 2: Modification of Gulf Gag Catch Limits Sector Allocation, and Rebuilding Timeline - Reference Points Primer

- F_{Max} used in past assessments; like fishing at wide open throttle. Not recommended by SSC.
- SSC recommended $F_{30\% \text{SPR}}$ for FES run of SEDAR 72 (2022), due to estimates of red tide vulnerability and stock reproductive ability
- SSC recommended $F_{40\% \text{SPR}}$ for SRFS run, again due to red tide, and further consideration of gag hermaphroditism (e.g., Harford et al. 2018)
- $F_{40\% \text{SPR}}$ would build the stock to a more resilient biomass level to sustain future red tide events
 - 2021 red tide severity = "medium" compared to 2005



Action 2: Modification of Gulf Gag Catch Limits Sector Allocation, and Rebuilding Timeline

- **Alternative 1:** No Action. Retain the current catch limits and sector allocation for gag. The current catch limits are set and monitored in MRIP-CHTS, using F_{MAX} . The sector allocation is 61% recreational, 39% commercial (Amendment 30B). These catch limits in pounds (lb) gutted weight (gw) are as follows:

OFL	4,180,000
ABC	3,120,000
Stock ACL	3,120,000
Commercial ACL (39% of Stock ACL)	1,217,000
Recreational ACL (61% of Stock ACL)	1,903,000



Note: Alternative 1 is not BSIA, and not viable

Action 2: Modification of Gulf Gag Catch Limits Sector Allocation, and Rebuilding Timeline

- **Interim Rule:** Revises the current catch limits based on MRIP-FES for the recreational sector landings, using $F_{30\%SPR}$. The sector allocation is 61% recreational, 39% commercial (Amendment 30B). These catch limits in lb gw are as follows:

OFL	4,180,000
ABC	3,120,000
Stock ACL	661,901
Commercial ACL (39% of Stock ACL)	258,142
Recreational ACL (61% of Stock ACL)	403,759

Note: This will be in effect for the 2023 fishing season only

Action 2: Modification of Gulf Gag Catch Limits Sector Allocation, and Rebuilding Timeline

- **Alternative 2:** Revise gag catch limits. The OFL, ABC, and ACLs will use $F_{40\%SPR}$. Stock ACL = ABC. The sector allocation is 61% recreational, 39% commercial. The catch limits will be set using, and monitored in, SRFS units for recreational private angling landings, FES for other recreational landings. Establish a rebuilding timeline for gag:
 - Option 2a: T_{Min} @ $F=0$ (11 years)
 - Option 2b: 75% of $F_{40\%SPR}$ (18 years)
 - Option 2c: $T_{Min} * 2$ (22 years)



Alternative 2: $F_{40\%SPR}$, 61% rec, 39% comm

Option 2a: T_{Min} @ $F=0$ (11 years)

$F = F_{40\%SPR}$	OFL	ABC	Rec ACL	Com ACL
Year	mp gw	mp gw	mp gw	mp gw
2024	0.60	0	0	0
2025	0.82	0	0	0
2026	1.01	0	0	0
2027	1.22	0	0	0
2028	1.48	0	0	0

Option 2b: 75% of $F_{40\%SPR}$ (18 years)

$F = F_{40\%SPR}$	OFL	ABC	Rec ACL	Com ACL
Year	mp gw	mp gw	mp gw	mp gw
2024	0.60	0.45	0.293	0.158
2025	0.82	0.63	0.410	0.221
2026	1.01	0.78	0.507	0.273
2027	1.22	0.96	0.624	0.336
2028	1.48	1.18	0.767	0.413



Alternative 2: $F_{40\%SPR}$, 61% rec, 39% comm

Option 2c: $T_{Min} * 2$ (22 years)

$F = F_{40\%SPR}$	OFL	ABC	Rec ACL	Com ACL
Year	mp gw	mp gw	mp gw	mp gw
2024	0.60	0.55	0.358	0.193
2025	0.82	0.75	0.488	0.263
2026	1.01	0.93	0.605	0.326
2027	1.22	1.13	0.735	0.396
2028	1.48	1.37	0.891	0.480

Catch limits in lb gw are rounded down to the nearest thousand pounds for each rebuilding timeline option.



Action 2: Modification of Gulf Gag Catch Limits Sector Allocation, and Rebuilding Timeline

- **Alternative 3:** Revise gag catch limits. The OFL, ABC, ACLs, and ACTs will use the MSY proxy of $F_{40\%SPR}$. ABC = total of ACLs. The sector allocation is 65% recreational, 35% commercial, using the SRFS-calibrated average landings from 1986 – 2005. The catch limits will be set using, and monitored in, SRFS units for recreational private angling landings, FES for other recreational landings. Establish a rebuilding timeline for gag. The catch limits in lb gw are rounded to the nearest thousand pounds, and are as follows for each rebuilding timeline option:
 - Option 3a: T_{Min} @ $F=0$ (11 years)
 - Option 3b: 75% of $F_{40\%SPR}$ (18 years)
 - Option 3c: $T_{Min} * 2$ (22 years)



Alternative 3: $F_{40\%SPR}$, 65% rec, 35% comm

Option 3a: T_{Min} @ $F=0$ (11 years)

$F = F_{40\%SPR}$	OFL	ABC	Rec ACL	Com ACL
Year	mp gw	mp gw	mp gw	mp gw
2024	0.591	0	0	0
2025	0.805	0	0	0
2026	0.991	0	0	0
2027	1.200	0	0	0
2028	1.454	0	0	0

Option 3b: 75% of $F_{40\%SPR}$ (18 years)

$F = F_{40\%SPR}$	OFL	ABC	Rec ACL	Com ACL
Year	mp gw	mp gw	mp gw	mp gw
2024	0.591	0.444	0.288	0.155
2025	0.805	0.615	0.400	0.215
2026	0.991	0.769	0.500	0.269
2027	1.200	0.943	0.613	0.330
2028	1.454	1.156	0.751	0.405

Alternative 3: $F_{40\%SPR}$, 65% rec, 35% comm

Option 3c: $T_{Min} * 2$ (22 years)

$F = F_{40\%SPR}$	OFL	ABC	Rec ACL	Com ACL
Year	mp gw	mp gw	mp gw	mp gw
2024	0.591	0.537	0.349	0.188
2025	0.805	0.736	0.479	0.258
2026	0.991	0.911	0.592	0.319
2027	1.200	1.109	0.721	0.388
2028	1.454	1.349	0.877	0.472

Catch limits in lb gw are rounded down to the nearest thousand pounds for each rebuilding timeline option.



Action 3: Modify the Gulf Gag Sector ACTs using Catch Limits and Sector Allocation in Action 2

- **Sub-Action 3.1:** Modify the Recreational ACT
- **Alternative 1:** No Action. Retain the current buffers between the sector ACLs and ACTs. The recreational ACL = 61% of the ABC. The recreational ACT = the yield at 75% of F_{MAX} (Amendment 30B).
- Catch limits under Alternative 1 of Action 2 in lb gw in MRIP-CHTS data units:

OFL	4,180,000
ABC	3,120,000
Stock ACL	3,120,000
Recreational ACL (61% of Stock ACL)	1,903,000
Recreational ACT	1,708,000



Action 3: Modify the Gulf Gag Sector ACTs using Catch Limits and Sector Allocation in Action 2

- **Sub-Action 3.1:** Modify the Recreational ACT
- **Alternative 1:** No Action. Retain the current buffers between the sector ACLs and ACTs. The recreational ACL = 61% of the ABC. The recreational ACT = the yield at 75% of F_{MAX} (Amendment 30B).
- Catch limits under 2023 interim measures in lb gw in MRIP-FES data units:

OFL	4,180,000
ABC	3,120,000
Stock ACL	661,901
Recreational ACL (61% of Stock ACL)	403,759
Recreational ACT	362,374



Action 3: Modify the Gulf Gag Sector ACTs using Catch Limits and Sector Allocation in Action 2

- **Sub-Action 3.1:** Modify the Recreational ACT
- **Alternative 2:** Revise the recreational ACT using the Council's ACL/ACT Control Rule, based on the 2018 – 2021 recreational fishing years, using MRIP-CHTS data units. This results in a 10% buffer between the recreational ACL and recreational ACT.



Action 3: Modify the Gulf Gag Sector ACTs using Catch Limits and Sector Allocation in Action 2

- **Sub-Action 3.2:** Modify the Commercial ACT
- **Alternative 1:** No Action. Retain the current buffer between the commercial ACL and ACT. The commercial ACL = 39% of the ABC. The commercial ACT = the yield at 75% of F_{MAX} (Amendment 30B). The commercial quota = 86% of the commercial ACT (Amendment 32).
- Catch limits under Alternative 1 of Action 2 in lb gw:

OFL	4,180,000
ABC	3,120,000
Stock ACL	3,120,000
Commercial ACL (39% of Stock ACL)	1,217,000
Commercial ACT	1,091,860
Commercial Quota	939,000



Action 3: Modify the Gulf Gag Sector ACTs using Catch Limits and Sector Allocation in Action 2

- **Sub-Action 3.2:** Modify the Commercial ACT
- **Alternative 1:** No Action. Retain the current buffer between the commercial ACL and ACT. The commercial ACL = 39% of the ABC. The commercial ACT = the yield at 75% of F_{MAX} (Amendment 30B). The commercial quota = 86% of the commercial ACT (Amendment 32).
- Catch limits **under the 2023 interim measures** in lb gw:

OFL	4,180,000
ABC	3,120,000
Stock ACL	661,901
Commercial ACL (39% of Stock ACL)	258,000
Commercial ACT	<i>Not Specified</i>
Commercial Quota	199,000



Action 3: Modify the Gulf Gag Sector ACTs using Catch Limits and Sector Allocation in Action 2

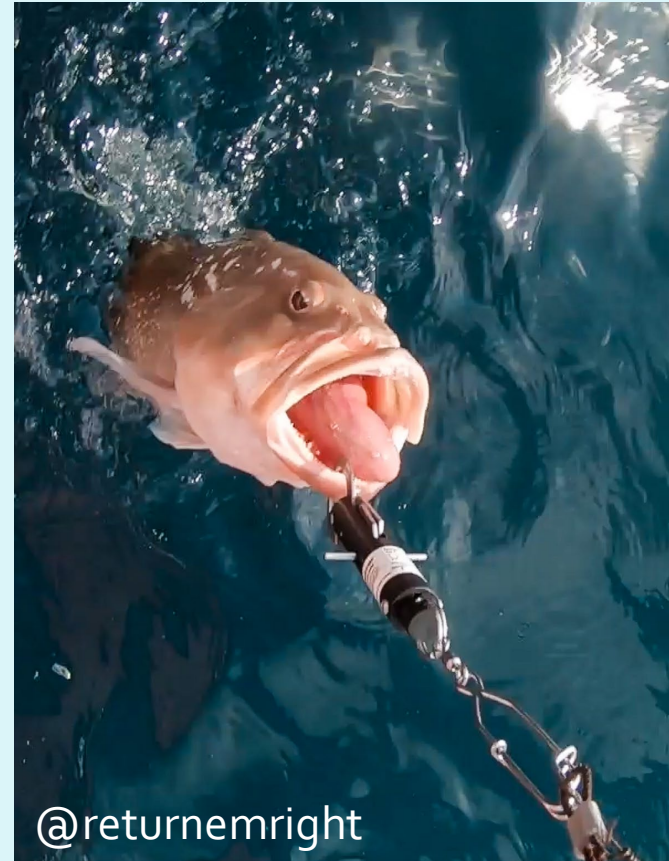
- **Sub-Action 3.2:** Modify the Commercial ACT
- **Alternative 2:** Set the commercial quota for the gag IFQ program equal the commercial ACT. The commercial ACT will be fixed at 86% of the commercial ACL.
- **Alternative 3:** Set the commercial quota for the gag IFQ program equal the commercial ACT. The commercial ACT will be fixed at 95% of the commercial ACL.



Action 3: Modify the Gulf Gag Sector ACTs using Catch Limits and Sector Allocation in Action 2

Multi-use IFQ Allocation

- Red grouper and gag IFQ share categories include a multi-use component
 - Allows retention of the other species to reduce discards
 - Amount of multi-use allocation varies annually based on quotas for each species
- If in a rebuilding plan, multi-use allocation for that species is zero
 - Accounts with red grouper will continue to have zero red grouper multi-use allocation for the duration of the gag rebuilding plan

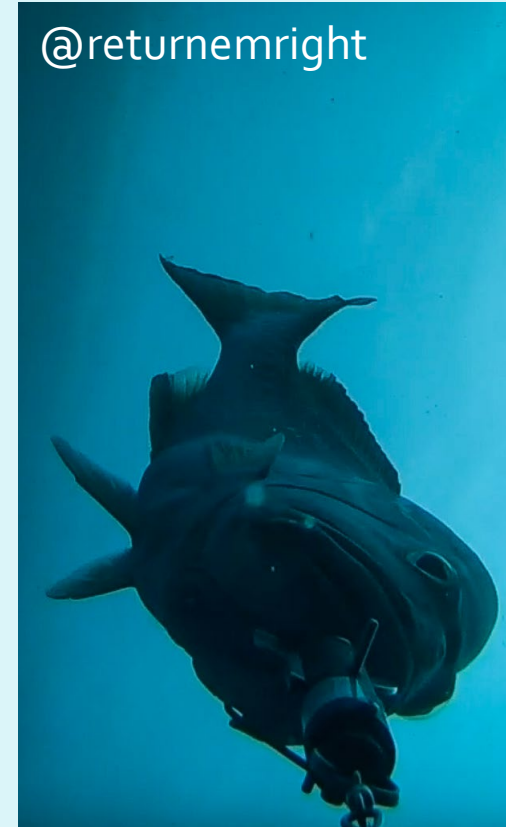


Action 3: Modify the Gulf Gag Sector ACTs using Catch Limits and Sector Allocation in Action 2

Multi-use IFQ Allocation

- 14% buffer between ACT and quota was for dead discards when IFQ program began
 - Commercial discards once poorly estimated
 - Discards thought to not be properly accounted for in projections (Amendment 32)
- Contemporary stock assessments use updated methods to account for discards in projections
 - Precision of commercial discards now greatly improved compared to 10+ years ago
 - Discards now much lower than when G-T IFQ program began (see 2022 G-T IFQ Report)

@returnemright

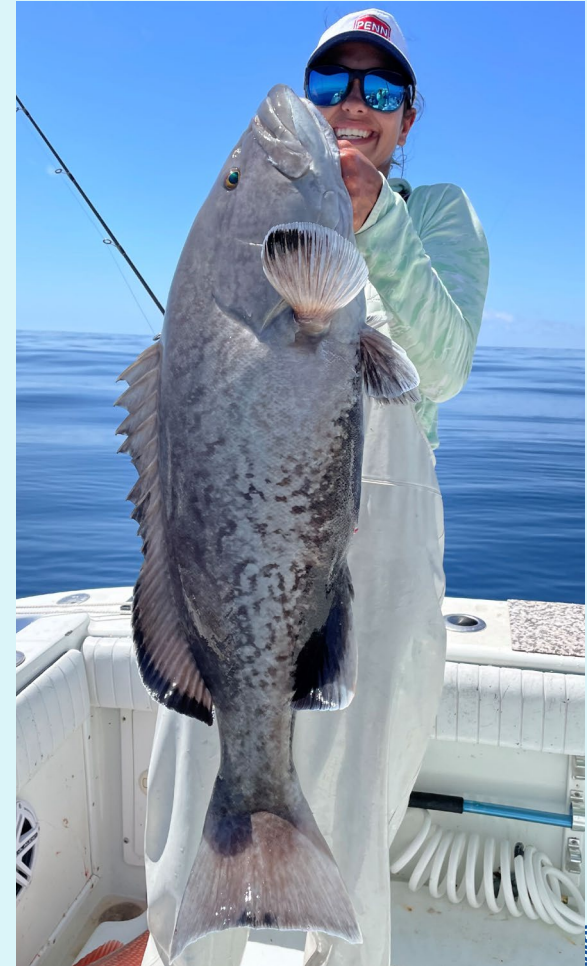


Action 3: Modify the Gulf Gag Sector ACTs using Catch Limits and Sector Allocation in Action 2

			Action 3 Alternatives				
			Sub-Action 3.1		Sub-Action 3.2		
				Alternative 2		Alternative 2	Alternative 3
Year	Action 2 Alts		Rec ACL	Rec ACT	Com ACL	Com ACT/ Quota	Com ACT/ Quota
2024	Alt. 2	Opt. 2a	0	0	0	0	0
		Opt. 2b	0.276	0.248	0.176	0.151	0.167
		Opt. 2c	0.333	0.299	0.213	0.183	0.202
	Alt. 3	Opt. 3a	0	0	0	0	0
		Opt. 3b	0.288	0.259	0.155	0.133	0.147
		Opt. 3c	0.349	0.314	0.188	0.161	0.178

Action 4: Modification of Gulf Gag Recreational Fishing Season Start Date... and AMs

- **Alternative 1:** No Action. Open rec fishing season on June 1. NMFS closes harvest when the ACL is projected to be met...
- **Alternative 2:** Open rec fishing season on June 1. NMFS closes harvest when the ACT is projected to be met...
- **Alternative 3:** Open rec fishing season on September 1. NMFS closes harvest when the ACT is projected to be met...
- **Alternative 4:** Open rec fishing season on October 1. NMFS closes harvest when the ACT is projected to be met...

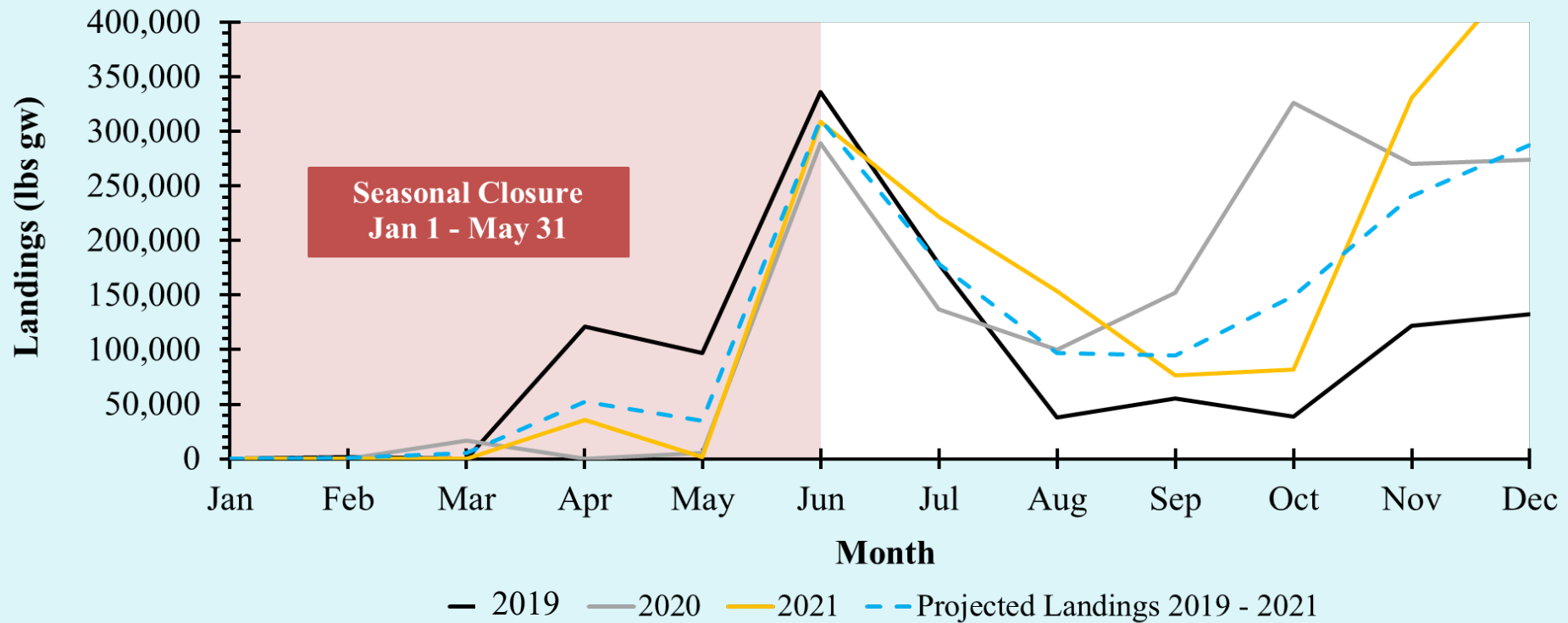


Action 4: The Accountability Measures...

- **Alternative 1:** No Action... if recreational landings exceed the recreational ACL, NMFS will maintain the recreational ACT for the following fishing year at the level of the prior year's ACT, unless the best scientific information available determines that maintaining the prior year's ACT is unnecessary. If gag is overfished, a lb for lb payback is applied to the ACL and ACT.
- **Alternatives 2-4:** Modify the AMs to direct that NMFS prohibit harvest when the recreational ACT is projected to be met. In addition, remove the provision that requires NMFS to maintain the prior year's ACT if the ACL is exceeded in the previous year. If gag is overfished, a lb for lb payback is applied to the ACL and ACT.



Action 4: Modification of Gulf Gag Recreational Fishing Season Start Date and AMs



- Recreational landings by month
 - Unable to be broken down by county/region
- Federal closed season landings from FWC spring season



Action 4: Modification of Gulf Gag Recreational Fishing Season Start Date and AMs

- Used estimated monthly landings for 2019 – 2021
 - SRFS for private vessels
 - FES for shore, charter
 - Southeast Region Headboat Survey for headboat
- Monthly landings divided by # days / month to provide a daily catch rate to project expected closure dates
 - Treats weekdays and weekends equally



Action 4: Modification of Gulf Gag Recreational Fishing Season Start Date and AMs

- Shown for 2024 only; see document for full table

Action 2, Alternative 2: 39% commercial 61% recreational						
Action 2 Alts	Rec ACL (lb gw)	Act 4, Alt 1 June 1	Rec ACT (lb gw)	Act 4, Alt 2 June 1	Act 4, Alt 3 Sept 1	Act 4, Alt 4 Oct 1
Alt 2b: 18y	276,000	June 27 (27 days)	248,000	June 24 (24 days)	Nov 1 (62 days)	Nov 13 (44 days)
Alt 2c: 22y	333,000	July 4 (34 days)	300,000	June 29 (29 days)	Nov 7 (68 days)	Nov 19 (50 days)



Action 4: Modification of Gulf Gag Recreational Fishing Season Start Date and AMs

- Shown for 2024 only; see document for full table

Action 2, Alternative 2: 35% commercial 65% recreational						
Action 2 Alts	Rec ACL (lb gw)	Act 4, Alt 1 June 1	Rec ACT (lb gw)	Act 4, Alt 2 June 1	Act 4, Alt 3 Sept 1	Act 4, Alt 4 Oct 1
Alt 2b: 18y	288,000	June 28 (28 days)	259,000	June 25 (25 days)	Nov 2 (63 days)	Nov 14 (45 days)
Alt 2c: 22y	349,000	July 7 (37 days)	314,000	July 1 (31 days)	Nov 9 (70 days)	Nov 21 (52 days)



Questions?

